

Communitywise Bellingham (CWB) has been identified by the EIS Agencies as a Key Stakeholder. We have been active in developing research and suggesting process for the last two years. Our focus is local, Whatcom County and Bellingham. This is one in a series of comments on specific aspects of issues.

The Big Picture: Railroad Traffic & Infrastructure – Powder River Basin Coal

CWB has requested in other comments that the GPT EIS study several Bellingham and Whatcom County issues related to the significant, probable and foreseeable impacts of GPT train traffic in general and coal trains in particular. In this comment we broaden from what we have learned about local impacts to what we have discovered about radical regional shifts that are the driving force behind GPT and other terminal projects. We believe this brief big picture review argues strongly in support of cumulative impact approaches and supports requests for a PEIS.

Many of the impacts in Whatcom County and Bellingham are huge and directly challenge continued progress on existing decades long planning and investment decisions. GPT will, *after a very short construction period*, more than double railroad traffic through Bellingham from *a level that took 40-50 years to evolve*. The single biggest challenge to minimizing economic damage to the community is that truly comprehensive mitigation will not only be extraordinarily expensive,¹ but to be effective it will also have to be undertaken in a same similar time period to avoid risk of a downward economic spiral with diminishing property values and population net-out migration diminishing tax base.² We expect that study will show similar challenges to many other communities.

This overview of PRB coal and RR Infrastructure focuses on the underlying realities and the magnitude of regional impacts that we have discovered simply to ship coal to the Gateway Pacific Terminal planned at Cherry Point. We have found that the extraordinary dimensions of even this single operation are not well understood, likely because they are so unimaginable without having been involved in research. Keep in mind in considering the need for cumulative impact studies or a full PEIS that the several other terminal proposals in the works potentially triple the amount of coal and railroad traffic that is being discussed here.

A single fact from the overview discussion that follows may serve best to illustrate the true scale of the regional issues and why they have compelled so many to request a PEIS. We are speaking here solely of the total freight tonnage for GPT at build out. The rail freight tonnage delivered to GPT alone *will be larger than the total rail freight tonnage currently delivered everywhere in the state of Washington* (including all local destined and trans-shipped exports from our ports). State studies indicate that the freight rail system is already congested so more than

¹ Included with a May 7, 2012 CWB briefing to the Bellingham City Council (found [here](#)) was a map (found [here](#)) and impact/mitigation discussion (found [here](#)) which highlights potential expenditures. Note that even if all the mitigations discussed were implemented there is no guarantee that the City's current economic vector could be preserved.

² The health of the Whatcom economy is related to its green reputation and destination attractiveness as documented in the technical appendices of the PFM economic study found [here](#).

doubling rail freight tonnage is likely to present major challenges. That other terminals could triple this tonnage would serve to magnify those challenges.

PRB Coal – While the *relative* “cleanliness” of Powder River Basin (PRB) coal is prominently mentioned as a rationale for its use in power generation, coal industry researchers believe that PRB coal has several drawbacks and *the primary market driver is low cost*³. Given contemporary greenhouse gas concerns, the drawbacks identified by industry researchers are highly relevant. The fact that PRB coal is a low BTU coal means that more has to be burned to produce the same amount of energy. The fact that PRB coal has high ash content creates a bigger waste disposal problem for the toxic fly ash. Economics 101 tells us that as long as the price of PRB coal can be kept low, be it through subsidy or externalizing related costs, it will distort markets by encouraging its continued use.

The reason for the low cost of PRB coal has been a history of past federal and state legislative and administrative decisions that, in the aggregate, have meant a cheap subsidized coal. The underlying policy rationale for these decades old developments was that cheap coal would fuel US manufacturing and job growth through the promotion of coal fired electrical plants. Figure 1 shows the geographic distribution of power plants using PRB coal. This is both a measure of how successful that policy was and a very clear illustration that PRB coal does not head West (a single plant each in WA and OR, both destined for closure). Figure 2 is an even more dramatic illustration of associated coal freight traffic. It shows the geographic distribution of annual rail freight tonnage for Class 1 railroads in red (where thicker lines represent larger volumes). This is ALL freight, *not just coal*. Even so it is hard to miss the most prominent feature on the map, a huge red swath originating in the Powder River Basin heading both East and South. There is no similar volume of railroad traffic of any kind anywhere else in the United States. It is again heading everywhere but West.

The policy reasons for these coal subsidies are long gone (as are many of the manufacturing plants originally helped by this cheap power). The subsidies are still present. This is often the case when temporary stimulus measures have no sunset clause and get extended indefinitely through the effective lobbying of benefitting parties.⁴ The domestic demand for PRB coal is disappearing rapidly as US power companies increasingly convert to cleaner energy sources, primarily natural gas.

There are competing economies in the world with less concern about pollution and burning coal. For them access to cheap subsidized energy remains an attractive alternative for fueling their own manufacturing and job growth. This is the fundamental dynamic driving Gateway Pacific Terminal (GPT) and the several other projects in the Pacific Northwest. PRB coal, too dirty for domestic markets, is turning upwind to Asia.

Railroad Infrastructure – Figures 1 and 2 do paint a very dramatic picture of the volume of PRB coal flowing East and South but they do relatively little toward understanding the fundamentally radical changes to infrastructure that will be required to reroute that coal heading West. A very basic problem is that while mining in PRB and the RR traffic out built up over decades, the current swing towards Asian markets is a veritable “all hands on deck” rush, a fast sprint West which will not provide the many years for communities to slowly adapt like communities affected in the original development of PRB. Note sheer volume has caused many routes taken by coal out of PRB to be built

³ *POWER*, October 2003, *PRB coal makes the grade*, Page 32

“Many utilities, independent power producers, and large industrial generators have switched from eastern bituminous coals to PRB coal for reasons of cost alone. Others have turned to the fuel because its use reduces emissions of SO₂—without the need to install costly scrubbers—and of NO_x. But for both groups, the use of PRB coal has proven to have some big downsides.

Compared with eastern coals, the typical PRB coal:

- Has more moisture.
- Is more friable and thus prone to ignition.
- Has a lower heating value per pound.
- Has a lower ash-softening temperature and higher ash content. Together, those characteristics usually lead to greater fouling and slagging of boiler surfaces and make dust control in and around the plant more difficult”.

⁴ In the case of extractive industries like coal there is a long history of creative lobbying to make local governments among the supposed “beneficiaries”. Montana, as an example, funds its entire school system with coal royalties and the current Ambre energy proposal in Oregon includes payments they estimate will be \$800,000 per year to a small local school district.

up to 3 or more parallel mainlines. Even so, these routes are so congested with slow coal trains⁵ that it is impossible to schedule time sensitive intermodal traffic⁶ on those corridors. The route West from PRB, by comparison, remains a single mainline system⁷ which is totally inadequate to handle a similar volume. The rapid building of terminals will require massive RR infrastructure changes and leave communities across several states without the long time frames to plan and develop fiscal means for mitigating major impacts.

GPT plans 18 daily trains (half arriving loaded, half leaving unloaded) to ship 54 million metric tons at build out⁸. The metric tons convert into 59.5 US tons; the measure used in US government reports. In 2010⁹ the combined grand total tonnage of *all* railroad freight to both the states of Washington and Oregon, including local consumption and export, was 80 million tons. The proportion to the state of Washington, because of the major Seattle-Tacoma shipping terminals, was 57 million tons. That means *GPT by itself will more than double total rail freight tonnage in the state of Washington*. This while the state has documented that it already has serious capacity problems¹⁰. Except for the research CWB has assembled or commissioned concerning Whatcom County and Bellingham, almost nothing is known of what infrastructure will be built for additional capacity or what its likely impacts will be. The only thing certain is that they will be big.

In Whatcom County multiple studies over the last 20 years¹¹ have documented the Bow to Ferndale bottleneck through Bellingham with a practical capacity for 14-15 trains. There is evidence that the practical capacity of this corridor is actually significantly lower than for coal trains which, as the heaviest trains in operation, have separate maximum speed rules and lower performance on grades than other freight traffic. In particular CWB timed a coal train on the Bow to Ferndale segment of the mainline at 54 minutes.¹² This is 12% longer than the 48 minute freight passage time that has been assumed for all capacity studies to date meaning there will be significantly less capacity given the planned 16 coal trains per day.

This mainline corridor currently runs at or near capacity as it has cyclically for the past decade. GPT needs 18 trains for its operation alone but there is no capacity. Existing studies indicate running a siding along the Bellingham waterfront - drastically isolating business, park, and redevelopment areas - will nearly double the capacity, but even that falls short. It is not yet known what infrastructure will be built or what its impacts will be¹³. Similar cases may exist throughout the railroad system.

⁵ With the heaviest axle loads in the industry coal trains have their own lower speed limits and lower grade performance.

⁶ WSDOT, *Statewide Rail Capacity and System Needs Study, Rail Capacity Needs and Constraints Second Interim Report*, 2006, Pages 1-4, 1-5

⁷ "The BNSF line between the Powder River Basin coal mines and the west coast is almost entirely a single track railroad." TSM railroad study January 17, 2012, Page 9 (found [here](#)).

⁸ This may be an underestimate given market pressures and the fact that Westshore terminals has been able to expand capacity over 50% without changing footprint and requiring new permits.

⁹ Oregonian 6/30/2012 (found [here](#)). Ross MacFarlane, Climate Solutions economic presentation, Bellingham 1/8/2013, found [here](#).

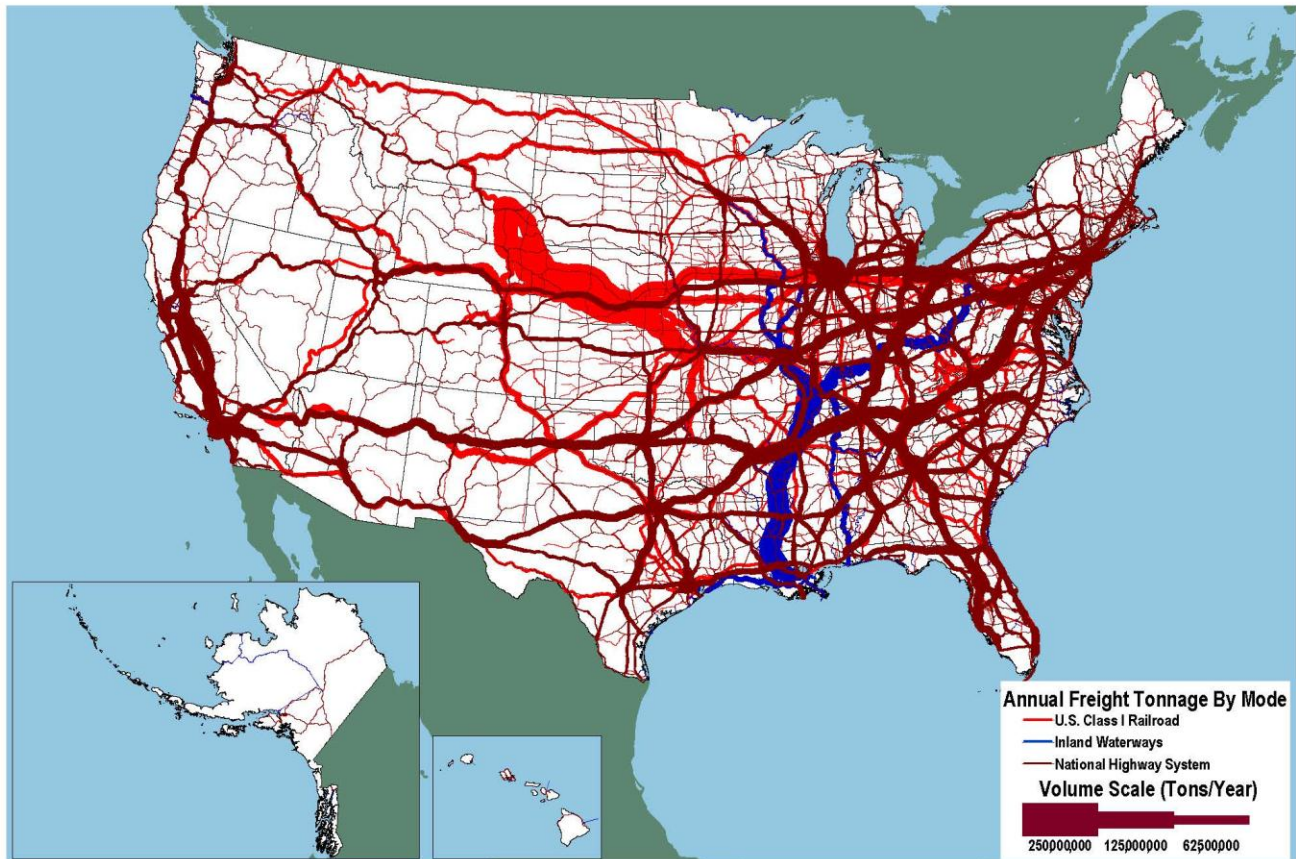
¹⁰ WSDOT, *2010-2030 Freight Rail Plan, December 2009*, Pages 3-27 to 3-29 north-south corridor delays worse than heavily congested Chicago hub.

¹¹ Separate CWB comments submitted with details and study citations regarding capacity in Whatcom County.

¹² Originating 9:59am December 30, 2012 with coal train passing Bow siding exit at full speed, timing from this point until Ferndale siding entry was passed by the trailing engine.

¹³ Separate CWB found [here](#).

Tonnage on Highways, Railroads and Inland Waterways: 2002



Sources: Highways: U.S. Department of Transportation, Federal Highway Administration, Freight Analysis Framework, Version 2.2, 2007. Rail: Based on Surface Transportation Board, Annual Carload Waybill Sample and rail freight flow assignments done by Oak Ridge National Laboratory. Inland Waterways: U.S. Army Corps of Engineers (USACE), Annual Vessel Operating Activity and Lock Performance Monitoring System data, as processed for USACE by the Tennessee Valley Authority; and USACE, Institute for Water Resources, Waterborne Foreign Trade Data, Water flow assignments done by Oak Ridge National Laboratory.

Figure 2